1. Identification

Product identifier: MERCURIC CHLORIDE

Other means of identification
Product No.: 2594, H419

Recommended use and restriction on use
Recommended use: Not available.
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer
Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034
Telephone: Customer Service: 855-282-6867
Fax: Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:
24 Hour Emergency: 908-859-2151
Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard classification

Health hazards
Acute toxicity (Oral) Category 2
Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1
Germ cell mutagenicity Category 2
Toxic to reproduction Category 2
Specific target organ toxicity - repeated exposure Category 1

Environmental hazards
Acute hazards to the aquatic environment Category 1
Chronic hazards to the aquatic environment Category 1

Label elements
Hazard symbol:

Signal word: Danger
Hazard statement: Fatal if swallowed.
Causes severe skin burns and eye damage.
Suspected of causing genetic defects.
Suspected of damaging fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention: Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment.

Response: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Collect spillage.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Chemical identity</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>MERCURIC CHLORIDE</td>
<td></td>
<td>7487-94-7</td>
<td>98 - 100%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. Rinse mouth.

Inhalation: Move to fresh air. Get medical attention if symptoms persist.

Skin contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.
Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

Most important symptoms/effects, acute and delayed

Symptoms: Fatal if swallowed. Corrosive to skin and eyes.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General fire hazards: In case of fire and/or explosion do not breathe fumes.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Use personal protective equipment. Ventilate closed spaces before entering them. See Section 8 of the MSDS for Personal Protective Equipment.

Methods and material for containment and cleaning up: Avoid dust formation. Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Stop leak if you can do so without risk. Inform authorities if large amounts are involved.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Use personal protective equipment as required. Do not get in eyes, on skin, on clothing. Do not taste or swallow. Avoid inhalation of dust. Wash thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage, including any incompatibilities:
Keep container tightly closed. Store in a cool and well-ventilated place. 
Store in a dry place. Store away from incompatible materials.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Chemical identity</th>
<th>Type</th>
<th>Exposure Limit values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>MERCURIC CHLORIDE - as Hg</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (03 2013)</td>
</tr>
<tr>
<td>MERCURIC CHLORIDE - Vapor - as Hg</td>
<td>Ceil_Time</td>
<td>0.1 ppm</td>
<td>US. NIOSH. Pocket Guide to Chemical Hazards (2010)</td>
</tr>
<tr>
<td>MERCURIC CHLORIDE - as Hg</td>
<td>Ceiling</td>
<td>0.1 mg/m³</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)</td>
</tr>
</tbody>
</table>

Biological limit values

<table>
<thead>
<tr>
<th>Chemical identity</th>
<th>Exposure Limit values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>MERCURIC CHLORIDE</td>
<td>20 µg/g (Creatinine in urine)</td>
<td>ACGIH BEL (02 2013)</td>
</tr>
</tbody>
</table>

Appropriate engineering controls
No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Eye/face protection: Use tight fitting goggles if dust is generated.

Skin protection
Hand protection: Chemical resistant gloves

Other: Wear suitable protective clothing.

Respiratory protection: In case of inadequate ventilation use suitable respirator.

Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower.

9. Physical and chemical properties

Appearance

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form:</td>
<td>Crystals or powder.</td>
</tr>
<tr>
<td>Color:</td>
<td>White</td>
</tr>
<tr>
<td>Odor:</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH:</td>
<td>3.2 (0.2 molar aqueous solution)</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>277 °C</td>
</tr>
</tbody>
</table>
Initial boiling point and boiling range: 302 °C
Flash Point: No data available.
Evaporation rate: No data available.
Flammability (solid, gas): No data available.

### Upper/lower limit on flammability or explosive limits
- Flammability limit - upper (%): No data available.
- Flammability limit - lower (%): No data available.
- Explosive limit - upper (%): No data available.
- Explosive limit - lower (%): No data available.

#### Vapor pressure:
0.13 kPa (136.2 °C)

#### Vapor density:
8.7 Air=1

Relative density: 5.4 (20 °C)

### Solubility(ies)
- Solubility in water: 74 g/l
- Solubility (other): glycerol: 8.33 g/l

#### Partition coefficient (n-octanol/water):
0.22

### Auto-ignition temperature:
No data available.

### Decomposition temperature:
No data available.

### Viscosity:
No data available.

### Other information
Molecular weight: 271.52 g/mol (Cl2Hg)

### 10. Stability and reactivity

#### Reactivity:
No dangerous reaction known under conditions of normal use.

#### Chemical stability:
Material is stable under normal conditions.

#### Possibility of hazardous reactions:
Hazardous polymerization does not occur.

#### Conditions to avoid:
Contact with incompatible materials. Heat.

#### Incompatible materials:

#### Hazardous decomposition products:
Toxic metal fumes may form when heated to decomposition.

### 11. Toxicological information

#### Information on likely routes of exposure

- **Ingestion:** Fatal if swallowed.
- **Inhalation:** Irritating to respiratory system.
- **Skin contact:** Causes skin burns.
- **Eye contact:** Causes serious eye damage.

#### Information on toxicological effects

- **Acute toxicity (list all possible routes of exposure)**
  - **Oral**
    - **Product:** No data available.
Dermal
Product: No data available.

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin corrosion/irritation
Product: Causes skin burns.

Serious eye damage/eye irritation
Product: Causes serious eye damage.

Respiratory or skin sensitization
Product: Not a skin sensitizer.

Carcinogenicity
Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

No carcinogenic components identified

Germ cell mutagenicity

In vitro
Product: No mutagenic components identified

In vivo
Product: No mutagenic components identified

Reproductive toxicity
Product: Suspected of damaging fertility or the unborn child.

Specific target organ toxicity - single exposure
Product: No data available.

Specific target organ toxicity - repeated exposure
Product: Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard
Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):
MERCURIC CHLORIDE LC 50 (Bluegill (Lepomis macrochirus), 96 h): 0.096 - 0.133 mg/l Mortality
LC 50 (Rainbow trout, donaldson trout (Oncorhynchus mykiss), 96 h): 0.13 - 0.19 mg/l Mortality
LC 50 (Fathead minnow (Pimephales promelas), 96 h): 0.1 - 0.182 mg/l Mortality

Aquatic invertebrates
Product: No data available.

Specified substance(s):
MERCURIC CHLORIDE
EC 50 (Water flea (Daphnia magna), 48 h): 0.005 mg/l Intoxication
LC 50 (Water flea (Daphnia magna), 48 h): 0.0021 mg/l Mortality

Chronic hazards to the aquatic environment:
Fish
Product: No data available.

Aquatic invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Specified substance(s):
MERCURIC CHLORIDE
LC 50 (Green algae (Chlorella vulgaris), 12 d): 0.128 mg/l Mortality
LD 50 (Red algae (Plumaria elegans), 18 h): 3.12 mg/l Mortality

Persistence and degradability

Biodegradation
Product: There are no data on the degradability of this product.

BOD/COD ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration factor (BCF)
Product: No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow)
Product: Log Kow: 0.22

Mobility in soil: No data available.

Other adverse effects: Very toxic to aquatic life with long lasting effects.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.
14. Transport information

DOT
- UN number: UN 1624
- UN proper shipping name: Mercuric chloride
- Transport hazard class(es): 6.1
- Label(s): 6.1
- Packing group: II
- Marine Pollutant: Yes

IMDG
- UN number: UN 1624
- UN proper shipping name: MERCURIC CHLORIDE
- Transport hazard class(es): 6.1
- Label(s): 6.1
- EmS No.: F-A, S-A
- Packing group: II
- Marine Pollutant: Yes

IATA
- UN number: UN 1624
- Proper Shipping Name: Mercuric chloride
- Transport hazard class(es): 6.1
- Label(s): 6.1
- Marine Pollutant: No
- Packing group: II

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
MERCURIC CHLORIDE Reportable quantity: 1 lbs.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories
- Acute (Immediate) X
- Chronic (Delayed) 
- Fire 
- Reactive 
- Pressure Generating

SARA 302 Extremely hazardous substance

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>RQ</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>MERCURIC CHLORIDE</td>
<td>500 lbs.</td>
<td>- -- -</td>
</tr>
</tbody>
</table>

SARA 304 Emergency release notification

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>MERCURIC CHLORIDE</td>
<td>1 lbs.</td>
</tr>
</tbody>
</table>
### SARA 311/312 Hazardous chemical

<table>
<thead>
<tr>
<th>Chemical identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>MERCURIC CHLORIDE</td>
<td>500lbs</td>
</tr>
</tbody>
</table>

### SARA 313 (TRI reporting)

<table>
<thead>
<tr>
<th>Chemical identity</th>
<th>Reporting threshold for other users</th>
<th>Reporting threshold for manufacturing and processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>MERCURIC CHLORIDE</td>
<td>10 lbs</td>
<td></td>
</tr>
</tbody>
</table>

### Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

### US state regulations

#### US. California Proposition 65
MERCURIC CHLORIDE Developmental toxin.

#### US. New Jersey Worker and Community Right-to-Know Act
MERCURIC CHLORIDE Listed

#### US. Massachusetts RTK - Substance List
MERCURIC CHLORIDE Listed

#### US. Pennsylvania RTK - Hazardous Substances
MERCURIC CHLORIDE Listed

#### US. Rhode Island RTK
MERCURIC CHLORIDE Listed

### Inventory Status:

- **Australia AICS:** On or in compliance with the inventory
- **Canada DSL Inventory List:** On or in compliance with the inventory
- **EINECS, ELINCS or NLP:** On or in compliance with the inventory
- **Japan (ENCS) List:** On or in compliance with the inventory
- **China Inv. Existing Chemical Substances:** Not in compliance with the inventory.
- **Korea Existing Chemicals Inv. (KECI):** On or in compliance with the inventory
- **Canada NDSL Inventory:** Not in compliance with the inventory.
- **Philippines PICCS:** On or in compliance with the inventory
- **US TSCA Inventory:** On or in compliance with the inventory
- **New Zealand Inventory of Chemicals:** On or in compliance with the inventory
- **Japan ISHL Listing:** On or in compliance with the inventory
- **Japan Pharmacopoeia Listing:** Not in compliance with the inventory.

### 16. Other information, including date of preparation or last revision

#### NFPA Hazard ID

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Reactivity</th>
<th>Special hazard.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe
Version: 1.0
Revision date: 09-04-2014

Issue date: 09-04-2014
Revision date: No data available.
Version #: 1.0
Further information: No data available.

Disclaimer: 
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